Strategic Genius

A Monograph

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When faced with complex problems, military leaders frequently fail to reach desired strategic outcomes. A leader with years of personal experience and a track record of success often runs headlong into a highly complex operational environment and achieves poor results. These leaders often consider the situation from only a military perspective and, as a consequence, arrive at a simplistic understanding of the environment. This poor understanding frequently pairs well with biased solutions favored by military institutions. Even if they generate an innovative approach, few leaders possess the capability to achieve buy-in from superiors and subordinates to see it through. A leader who possesses a gift for strategic understanding paired with a capacity to realize new approaches would be the elusive *strategic genius*. What traits make a strategic genius? Several modern theorists examine how such an individual might think and some offer how this person might lead but few combine these traits to develop the concept of strategic genius as a whole. Looking at both strategic thinking and strategic leadership through an interdisciplinary lens of complexity science, design theory, and history, this monograph examines how a leader's perspective on problems and style of communication can generate strategic genius. Rather than prescribing a set of characteristics, this work suggests that strategic genius requires a unique combination of diverse perspectives on complex and adaptive environments matched with the compelling courage to recognize and resist personal biases and gain institutional buy-in to achieve innovative results.

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Abstract

Strategic Genius, by Maj Matthew Strohmeyer, 50 pages.

When faced with complex problems, military leaders frequently fail to reach desired strategic outcomes. A leader with years of personal experience and a track record of success often runs headlong into a highly complex operational environment and achieves poor results. These leaders often consider the situation from only a military perspective and, as a consequence, arrive at a simplistic understanding of the environment. This poor understanding frequently pairs well with biased solutions favored by military institutions. Even if they generate an innovative approach, few leaders possess the capability to achieve buy-in from superiors and subordinates to see it through. A leader who possesses a gift for strategic understanding paired with a capacity to realize new approaches would be the elusive *strategic genius*. What traits make a strategic genius? Though several military theorists such as Lawrence Freedman and Colin Gray warn that such rare genius may not exist, Carl von Clausewitz contends that such a leader is possible but would require a "harmonious combination" of several traits. While the Prussian provides some vague suggestions, his description of genius fails to offer tangible characteristics that are relevant to today's operational environment. Several modern theorists examine how such an individual might think and some offer how this person might lead but few combine these traits to develop the concept of strategic genius as a whole. Looking at both strategic thinking and strategic leadership through an interdisciplinary lens of complexity science, design theory, and history, this monograph examines how a leader's perspective on problems and style of communication can generate strategic genius. Rather than prescribing a set of characteristics, this work suggests that strategic genius requires a unique combination of diverse perspectives on complex and adaptive environments matched with the compelling courage to recognize and resist personal biases and gain institutional buy-in to achieve innovative results.

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Acknowledgements

Acronyms

ABM   Agent-Based Modeling

ADP   Army Doctrine Publication

CAS   Complex Adaptive System

JP   Joint Publication

NATO   North Atlantic Treaty Organization

RAF   Royal Air Force

USAID   United States Agency for International Development

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Introduction

In the summer of 1940, Great Britain reeled from the fall of France and the near-disaster of Dunkirk. America remained uncommitted and the English nation looked to her own capabilities to defend against what was thought to be the inevitable German invasion. While English shipping and naval forces remained strong, the island's defensive strength against invasion resided in the Royal Air Force (RAF). This situation presented Adolf Hitler and Reichsmarschall Hermann Göring a clear course of action to degrade England's will to resist: eliminate the RAF capability to mount a defense.[1] Without a means to protect vital military and commercial ports from air attack, the island nation would rapidly capitulate and Germany's western flank could stand secure. To address this looming threat, the RAF faced two considerable problems: a serious shortage of capable fighter aircraft and the early warning and control systems to direct a defense. Into this challenging situation the RAF thrust a reluctant new leader of Fighter Command, Air Chief Marshal Hugh Dowding.[2]

Conventional British wisdom held that an effective air defense required aircraft constantly airborne and that the enemy fighter escort should be the first target. Implementing these ideas with a relatively small number of RAF fighter aircraft meant that only a very few defenders were able to meet the huge formations of superior German attackers. Dowding, open to ideas outside the traditional RAF paradigms and aware that an enemy would adapt to change, envisioned an entirely different approach: a combination of newly developed early warning

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[1] Len Deighton and Max Hastings, *Battle of Britain* (London: Michael Joseph, 1990), 76.

[2] The weak RAF of 1940 resulted from interwar defense spending cuts and an institutional commitment to Guilio Douhet's myopic concept of strategic bombing as the panacea for modern wars. It was only in 1934, after Britain realized the offensive threat that Germany posed, that last-minute fighter production began and the Ministry of Defense installed new RAF leadership. By 1940, Britain gained some air superiority capability but still possessed smaller numbers of inferior fighters to those of Germany. See R. Overy, *The Battle of Britain: The Myth and the Reality* (New York: W.W. Norton, 2002), 33; Deighton and Hastings, *Battle of Britain*, 39. Ibid., 39.

radars, a delegated regional command and control system, aircraft on ground alert instead of airborne, and a standing order to avoid enemy fighters and concentrate on bombers.[3] While incurring some risk in the event that an attacking formation might slip past radar coverage, Dowding's plan provided for a capability to mass defensive fighters at the place and time necessary to meet the attackers with comparable levels of force.[4] Both the idea to hold aircraft on the ground until an attack and to bypass fighter escorts opposed biases of Fighter Command. Despite the institutional opposition, Dowding compellingly generated support from his political superiors as well as his group commanders and implemented the plan with stunning success in the Battle of Britain.[5]

Dowding's uncanny ability to approach the problem with diverse and complex thinking, courageously resist organizational biases in his solution, and compel buy-in from above and below provides an excellent example of what one might term *strategic genius*. Other examples of this innovative ability may include a political leader who visualizes a complex problem from a new perspective and generates a novel solution that confounds expectations. Conversely, a military theorist may, despite significant resistance from his service, develop a highly innovative and eminently effective perspective on warfare. Or consider a commander who, when faced with a novel strategic situation and a highly complex environment, combines various components of a diverse knowledge base to produce a unique yet highly effective solution. Fundamentally, these leaders possess abilities in the two categories of strategic genius: *strategic thinking* and *strategic leadership.*

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[3] Dowding recognized that the hub of British defensive capabilities was not the ports, nor the nation's industrial production capability, nor even the early warning radar sights but rather the limited numbers of fighter aircraft. By ordering defending fighters to target only bombers, contrary to RAF norms, Dowding preserved the small fighter force while still offering the necessary resistance to the incoming bombers. See Richard Hough and Denis Richards, *The Battle of Britain: The Greatest Air Battle of World War II* (New York: Norton, 1989), 222.

[4] Deighton and Hastings, *Battle of Britain*, 39.

[5] Ibid., 151.

Rather than searching for how to attain or how to practice strategic genius, this monograph simply asks *what is strategic genius?* To this end, instead of describing the development of strategic genius, this monograph attempts to describe its characteristics. In short, this work offers the *what* of strategic genius and only implies *how* such an ability develops. Rather than separating concepts of strategic thinking and strategic leadership, this monograph attempts to understand the effective combination of both within the same leader.

This work uses *abductive* reasoning (synthesizing contemporary theories) to develop a working hypothesis and then tests this combined theory against two historical case studies.[6] Chapter one seeks to shift the understanding of the term *strategic* from a level of analysis to a way of thinking while also clarifying the understanding of *genius* as applying to both familiar and novel situations. Chapter two examines existing ideas regarding strategic genius and describes leaders with this ability as *diverse* and *complex* thinkers, and *courageous* and *compelling* leaders (see Figure 1). As a strategic thinker, *diverse* describes a leader's ability to see the environment from a wide range of perspectives while *complex* refers to their ability to harness the patterns within complex problems as well as their sensitivity to unanticipated consequences. As a strategic leader, *courageous* tells of this individual's willingness to resist bias and *compelling* denotes a persuasive style that works alongside social trends to implement an effective approach. Strategic genius, rather than an abundance of one specifics trait, uniquely combines all four of these components within a single leader. Chapter three tests this synthesized theory against the historical case study of Prussian military reformer Gerhard von Scharnhorst in the wake of defeat at Jena and Auerstedt. Chapter four provides a second case study in the examination of British Army Lieutenant General William Slim during his Burmese campaign of the Second World War.

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[6] Jon Kolko, *Exposing the Magic of Design* (Oxford University Press, 2010), 23–25, accessed December 14, 2014, http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199744336.001.0001/acprof-9780199744336.
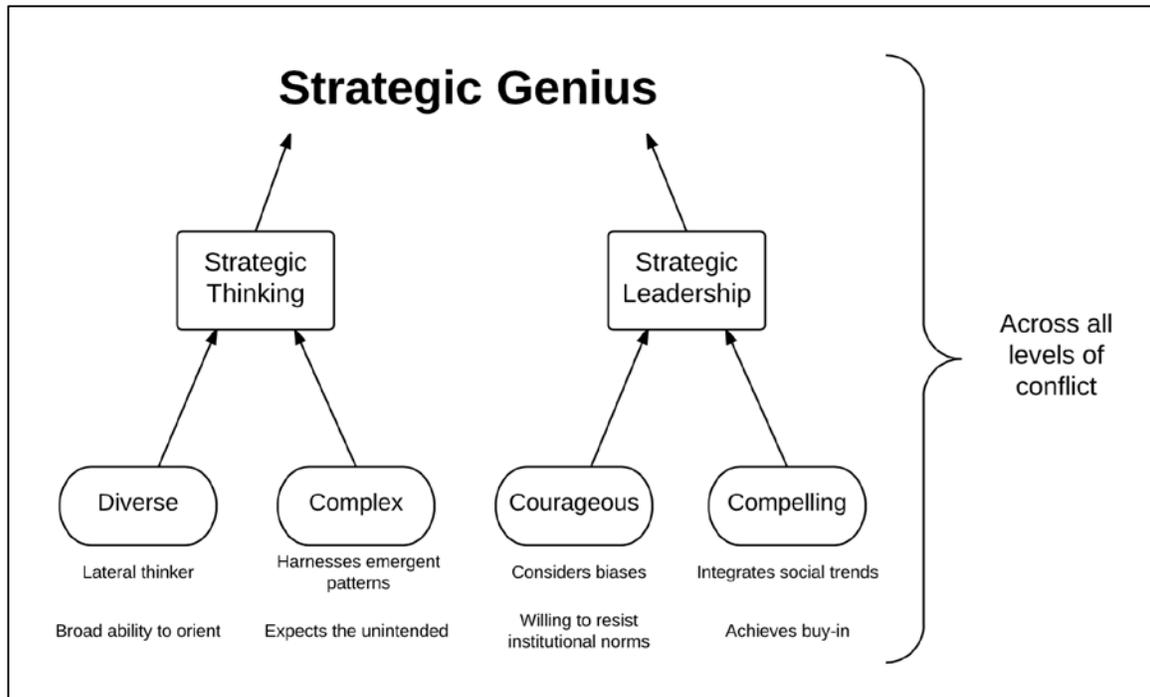
Figure 1. Mapping Strategic Genius

Source: Created by author.

One: Framing Strategic Genius

Strategic genius is a very loaded term, ripe with preconceived ideas and biases. The term *strategic* often refers to a level of war or the importance of a decision. This section shifts the understanding of the adjective strategic to include all levels of war while refocusing the term to describe a way of thinking that considers the tactical, operational and strategic levels at the same time. Similarly, this section traces existing understandings of *genius* and seeks to show how this concept applies to *both* unfamiliar and familiar problems.

What is strategic?

US Army and Joint Doctrine use the term strategic in reference to a level of war and the linking of military actions with political goals.[7] Codifying strategic in this way tends to isolate the term from the majority of planners and commanders who may see themselves as working at the operational or tactical level of war. In their minds, strategic issues might be worthy of consideration, but only insofar as they inform the arrangement of operational *ways* or tactical *means.* British Army general Rupert Smith and theorist Emile Simpson highlight that post-industrial war, marked by a breakdown in distinctions between combatants and non-combatants, tends to blur the lines between levels of war. This current form of "war amongst the people" creates situations where soldiers at a tactical level increasingly have the potential to create strategic effects.[8] In a similar way, Antulio Echevarria argues that institutionalizing the idea of an operational level of war isolates strategic goals from tactical actions, leading to a possible disconnect between means and ends.[9] Because of these concerns, this monograph uses the

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[7] Joint Publication (JP) 3-0, *Joint Operations* (Washington, DC: Government Printing Office, 2011), x–xii; Army Doctrine Reference Publication (ADRP) 3-0, *Unified Land Operations* (Washington, DC: Government Printing Office, 2012), 1–4; 2–1.

[8] Rupert Smith, *The Utility of Force: The Art of War in the Modern World* (New York: Vintage Books, 2008), 271; Emile Simpson, *War from the Ground Up: Twenty-First Century Combat as Politics* (New York: Oxford University Press, 2013), 231–232.

[9] John Andreas Olsen and Martin Van Creveld, eds., *The Evolution of Operational Art: From Napoleon to the Present* (Oxford: Oxford University Press, 2011), 138.

adjective strategic (and thereby strategic genius) not in reference to a level of war or the importance of a decision, but rather as a type of perspective on problems and potential solutions.

A strategic perspective refers not to a specific level of war, but rather to a contextual view of a situation.[10] To describe this concept better, it is helpful to relate the adjective *strategic* with the noun *strategy.* Strategy eludes easy definition and its ubiquitous use inside and outside the military establishment ensures that it remains ambiguously applied. Lawrence Freedman highlights that, like the above description of *strategic,* strategy implies not so much a level of decision but rather the nature of the situation.[11] True strategy by its nature rises above short-term events and outcomes to seek the bigger picture. It is not necessarily a plan alone (for a toddler can produce a robust plan to retrieve a cookie from a jar on a shelf) but rather a process of intuitive planning in the face of competition in an adaptive environment for which linear prediction is difficult or impossible.[12] By this definition, strategy involves two or more wills at odds for an advantage or specific gain. Strategy then, exists not just in national-level decisions or conflicts but rather in all competitive situations and refers to a holistic, long-term perspective.

Building on this understanding, Everett Dolman notes that competitive strategy rarely results in a clear victory and an identifiable end state but rather "continuing advantage:" a state of affairs that provides a more advantageous position for future actions. To contrast this idea, *tactical thinking* considers just the action at hand and seeks a clear end state. While the rather vague idea of continuing advantage might frustrate tactical military leaders who prefer a distinct beginning and end, they too may benefit from a strategic perspective that views their actions as

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[10] Harry R. Yarger, *Strategic Theory For The 21st Century: The Little Book On Big Strategy* (Carlisle, PA: Strategic Studies Institute, 2014), 36.

[11] Lawrence Freedman, *Strategy: A History* (Oxford: Oxford University Press, 2013), ix–xi.

[12] Ibid., ix.

part of a greater effort that continues, rather than ends.[13] Strategy, thus defined, shows that any

decision at any level can (and even should) be strategic through an appreciation of continuation

versus ends. In these ways, strategic actions and consequently, strategic genius, occur at all levels

of warfare and refer mainly to the nature of the approach to the problem, not the level.

Which Genius?

The idea of *genius* is a popular topic among military theorists. Some, like Freedman,

claim that military genius in a single leader is highly unlikely or even impossible.[14] Others such

as strategic theorists Harry Yarger and William Duggan agree that, while rare, some leaders have

the capacity to develop a degree of genius. Additionally, many theorists consider genius

applicable only in novel or unfamiliar military situations.[15] This section describes the

contemporary understandings of military genius, showing that it is not simply innovative thought

related to military problems, but applies to all problems.

The ever-present Prussian theorist Carl von Clausewitz described the concept of military

genius as a "harmonious combination of elements" applied to the military occupation.[16] The crux

of his description of genius was the term *coup d'oeil,* or "the quick recognition of a truth that the

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[13] Everett C. Dolman, *Pure Strategy: Power and Principle in the Space and Information Age* (London; New York: Frank Cass, 2005), 5–10. While Dolman clearly argues against the use of *end states* in strategy, he also sees strategy as a practice for the higher levels of conflict and, unlike this monograph, eschews the need for strategic thought at tactical and operational levels of war.

[14] Freedman, *Strategy*, 238–239. Freedman here uses the term *master strategist* but the meaning is similar to Clausewitz's definition of genius. Both require a unique combination of multiple traits and perspectives in one mind to achieve an uncommon perspective on a military problem.

[15] Yarger, *Strategic Theory For The 21st Century*, 36; William R. Duggan, *Strategic Intuition: The Creative Spark in Human Achievement* (New York: Columbia Business School Pub, 2007), 8; William R Duggan, *Napoleon's Glance: The Secret of Strategy* (New York: Thunder's Mouth Press/Nation Books, 2004), 271–272.

[16] Carl von Clausewitz, *On War*, trans. Michael Howard and Peter Paret (Princeton, N.J: Princeton University Press, 1989), 100.

mind would ordinarily miss or would perceive only after long study and reflection."[17] In other words, *coup d'oeil* is a leader's ability to take in the whole breadth and depth of a problem and achieve a rapid synthesis of thought to produce an uncommonly effective solution. This broad definition captures the understanding of genius as used in this monograph.

When presented a problem, a leader holds some degree of familiarity with the elements and actors involved in the situation. Some situations are extremely familiar while others contain many novel elements that defy previous experience. When encountering *familiar* situations, leaders possess a high degree of experience with the problem. For example, an army field artillery battery might receive a combat fire mission from their higher headquarters. Conversely, in *novel* situations, leaders face concepts, elements or interactions unfamiliar to them. Here, a Joint Task Force commander might receive a request to advise national leadership on diplomatic options within their area of responsibility due to lack of a Department of State presence.[18]

Many argue that genius occurs only in novel, unfamiliar situations. In Book One of *On War,* Clausewitz implies that the capacity for genius applies only to new, unfamiliar military problems.[19] Supporting this point, in Book Two, he describes how military forces, especially at the tactical level, require the use of memorized solutions and biased procedures, the opposite of genius, to efficiently respond to repeated familiar problem sets. Yet Clausewitz cautions that a leader who slavishly (though unknowingly) applies these *routine methods* may usher in catastrophe. These arguments beg the question: when is a situation novel and when is it just a variation on past experience? Clausewitz answers this concern by advising a middle-road: a leader should cautiously apply routine methods, using them as a tutor and not as a prescriptive

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[17] Ibid., 102.

[18] Duggan, *Strategic Intuition*, 2.

[19] Clausewitz, *On War*, 100.

guide.[20] Though this is sound advice, it does not go far enough. Every situation is unique in some

way and genius, quite possibly, should apply a critical eye both to the novel *and* routine, asking

whether there are better solutions.

In a concept similar to Clausewitz's *genius*, Duggan offers the idea of *strategic intuition,*

the ability to combine previously unrelated ideas into an innovative solution, also concluding that

this concept applies only to novel situations.[21] Duggan states that, when faced with a novel

problem, most leaders gravitate back to familiar heuristics that appear to apply, and often fail to

achieve desired results. Occasionally, individuals combine diverse elements of past experience

and, in a spark of brilliance, discover an intuitive solution.[22]

While Duggan's thesis is certainly true, he, like Clausewitz, does not recognize that true

strategic genius applies both to novel and familiar situations. All situations contain some element

of novelty. Seemingly familiar situations in reality contain some new elements that must be

considered in order to take effective action. In a complex world, where small differences can lead

to entirely different outcomes, failure to recognize novel elements can lead to a host of

unintended consequences. In a similar way, even if a situation is entirely familiar, the accepted

solution might be sub-optimal. These leaders arrive at sub-optimal solutions because of the

difficulty in recognizing often subtle, yet important, changes in context.[23] In this case, leaders

apply the standard solution to the familiar problem and, despite less than desired results, continue

to accept this standard approach. This natural cognitive resistance to change usually means that

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[20] Ibid., 153.

[21] Duggan, *Strategic Intuition*, 2.

[22] Ibid., 60–61.

[23] James G. March and Chip Heath, *A Primer on Decision Making: How Decisions Happen* (New York: Free Press, 2009), 28–29. Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1996), 24. Mary Jo Hatch, *Organization Theory: Modern, Symbolic, and Postmodern Perspectives* (Oxford: Oxford University Press, 2013), 185–188.

status quo solutions remain predominant, even in the face of poor results that Thomas Kuhn referred to as *anomalies*. The presence of these frustrating or unexpectedly negative results typically drives leaders to more sophisticated versions of the normal solution though the process that Kuhn termed *normal science*. This individual bias towards the status quo combines with institutional forces that encourage only the accepted solution. Institutional bias pushes individuals towards status quo perspectives because many of the social and academic norms within the institutional culture resist changes of thought. Because of human tendencies to both overlook novelty and to accept status quo solutions, strategic genius achieves novel solutions in novel situations and, because of a willingness to challenge biases, also arrives at potentially novel solutions to familiar problems.

Genius, as conceived in this monograph, views all situations as containing elements of novelty and continually asks the question: "though this situation seems familiar, is it beneficial to look at it from a new perspective to reach a better solution?" Quite apart from innovation for the sake of innovation, genius seeks what product designer Richard Seymour describes as "the unexpectedly relevant solution, not wackiness parading as originality."[24] Strategic genius, then, refers to a manner of thinking and leadership that applies to all levels of warfare and to both novel and familiar situations.

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[24] Bryan Lawson, *How Designers Think: The Design Process Demystified* (Burlington, MA: Elsevier, 2006), 154.

Two: Examining the Elements

"It is precisely the essence of military genius that it does not consist in a single appropriate gift"

— Carl von Clausewitz, *On War*

Strategic Thinking: Diverse

Chairman of the Joint Chiefs of Staff, General Martin Dempsey, recently identified a lack of ability to innovate as one of his chief concerns for the US armed forces of the future.[25] General Mark Welsh, Chief of Staff of the Air Force noted in 2012 "the [future] security environment will drive the need for innovative thought."[26] General Raymond Odierno, Chief of Staff of the Army, listed agile, adaptable, and versatile among the required traits for the army of the future in his testimony to the House Armed Services Committee.[27] A recent analysis paper from the Center for Strategic and Budgetary Assessment concluded that the United States has, for some time, failed to generate effective and innovative strategy.[28] Additionally, the Army's newest Operating Concept added *innovation* as a core tenet defining it as "the result of critical and creative thinking and the conversion of new ideas into valued outcomes."[29] Clearly, senior leaders within the defense enterprise have concerns regarding the ability of future leaders to provide innovative strategic thinking to effectively meet the challenges of an unknown future. If the first major component of strategic genius lies in the concept of strategic thinking, then a leader possessing this trait is first

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[25] "Transcript: Gen. Martin Dempsey at Disrupting Defense," *Atlantic Council*, accessed December 14, 2014, http://www.atlanticcouncil.org/news/transcripts/transcript-gen-martin-dempsey-at-disrupting-defense.

[26] Air University Press, "An Interview with Gen Mark A. Welsh III: Twentieth USAF Chief of Staff," *Strategic Studies Quarterly* Winter (2012): 7.

[27] "Nov. 2, 2011 - CSA Testimony to HASC Regarding Future of the Military Services," 3, accessed December 14, 2014, http://www.army.mil/article/68548/.

[28] Andrew Krepinevich and Barry Watts, "Regaining Strategic Competence: Strategies for the Long Haul" (Center for Strategic and Budgetary Assessments, 2009), vii, 5–6.

[29] TRADOC Pamphlet 525-3-1, *The U.S. Army Operating Concept: Win in a Complex World* (Washington, DC: Government Printing Office, 2014), 20.

diverse, meaning they are able to both think laterally *and* vertically as well as to view a problem from a wide range of perspectives (see Figure 2).
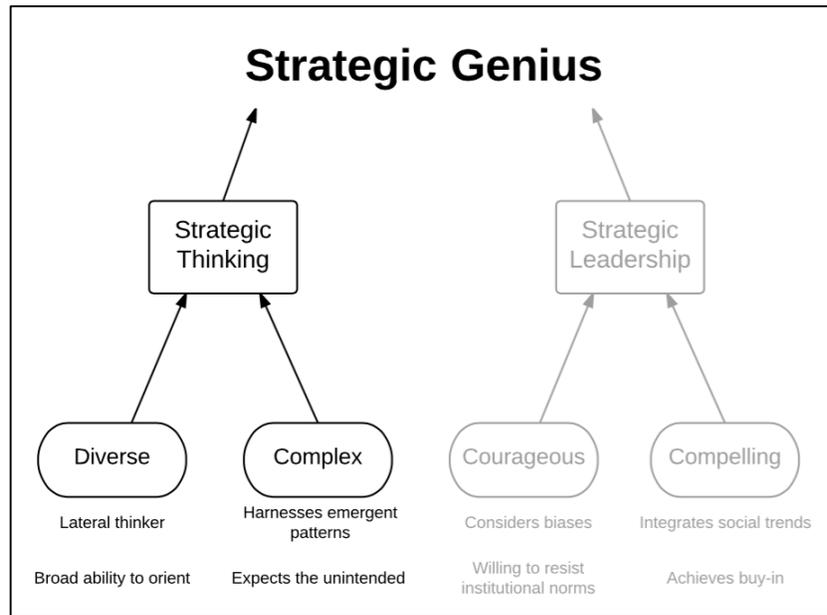
Figure 2. Strategic Thinking

Source: Created by author.

While Joint doctrine lists experience and historical military knowledge as the source for innovative ideas in challenging situations, this professional knowledge alone might restrict a leader's ability to break free from their singular perspective.[30] To this point, Edward de Bono describes two ways to cognitively approach the world: *vertical* and *lateral thinking*. Vertical thinkers deeply consider and understand their specific profession yet limit themselves to this one perspective seeking only information with relevance to their field. Lateral thinkers, on the other hand, consider a wide variety of professional and academic perspectives, many with little apparent relevance to their occupation. The vertical thinker achieves a seemingly high degree of ability within their specific occupation or interest, but their perspectives are so narrowly focused that they are unable or unwilling to consider potentially beneficial ideas from outside their area of

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[30] Joint Publication (JP) 5-0, *Joint Operation Planning* (Washington, DC: Government Printing Office, 2011), III–2.

expertise.[31] The lateral thinker, in contrast, not only considers the ideas within their professional field, but also a wide range of other perspectives, granting a much greater stock of considerations to pull from when a problem arises. De Bono's research suggests that the ability to think laterally forms the foundation of creative thought while vertical thinking tends to anchor someone into one perspective and stifle innovation.[32] Described this way, an innovative strategic thinker requires not only expert-level vertical thinking within a professional field but also diverse lateral thinking in order to incorporate novel perspectives.

In a similar way, political theorist Isaiah Berlin, in his 1953 analysis of Tolstoy repeats the phrase of the Greek poet Archilochus "[t]he fox knows many things, but the hedgehog knows one big thing" to describe the chasm between two types of metaphysical knowledge. Berlin's point is that *foxes*, who avoid singular perspectives and enjoy a plurality of beliefs, tend to be more open to opposing ideas, more willing to admit the faults of their logic and more diverse in their knowledge. Conversely, *hedgehogs* limit themselves to one strongly held perspective and bias themselves to knowledge and logic that supports only their beliefs.[33]

Moving from the metaphysical to the practical, Phillip Tetlock applies Berlin's conceptual analogy to professional experts and asks who is better at making correct political and international relationship predictions: hedgehogs who specialize in a singular discipline or foxes with an eclectic background. Against expectations, the experts who knew one thing well failed to accurately predict political actions while the foxes achieved considerably more success.[34] In a

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[31] Edward De Bono, *Lateral Thinking: A Textbook of Creativity* (New York: Penguin Books, 1990), 8–9.

[32] Ibid., 7–8.

[33] Isaiah Berlin, *The Hedgehog and the Fox: An Essay on Tolstoy's View of History* (Princeton: Princeton University Press, 2013), 1–2.

[34] Philip E Tetlock, *Expert Political Judgment How Good Is It? How Can We Know?* (Princeton, N.J.: Princeton University Press, 2005), 1–9, accessed May 12, 2014, http://public.eblib.com/EBLPublic/PublicView.do?ptiID=457930.

similar way, political scientists Rudra Sil and Peter Katzenstein advocate for a concept they term *analytical eclecticism* where scholars resist the tendency to practice their single preferred method of analysis but rather embrace a range of perspectives to encourage critical thought and consideration of opposing views.[35] How specifically do these similar concepts of lateral thinking, the fox, and eclectic analysis relate to individual leaders? The key lies in a diverse thinker's ability to apply their multiple perspectives to a specific situation: to orient themselves to a problem from a broad range of perspectives.

Cognitive psychology, again, offers some clues as to how this process works. The human brain collects a nearly endless amount of information but stores and retrieves this data via a system of interconnections. A thought unrelated to anything else will fade quickly but an idea that relates in meaningful ways to other ideas sticks firm. Duggan recently highlighted neuroscientist Barry Gordon's 2003 work to describe the cognitive events that combine to create a spark of genius: disparate thoughts in the mind, over time and rather inexplicably, form connections with other thoughts creating a new idea. This experience is the snap realization that an individual might have regarding a previously unrecognized relationship: "Strategic Intuition is, at its core, eclectic to the extreme. Multiple disciplines are brought together into a single mind via creative and rational processes to produce (accidentally) a novel idea."[36] In this way, a broad knowledge of seemingly unrelated perspectives can, without conscious effort, combine to form a novel idea. So the diverse thinker not only orients themselves to a problem from a number of points of view, but may also arrive at an uncommon and relevant solution.

Steve Jobs experienced this unexpected linkage when his knowledge of calligraphy randomly combined with his efforts on computer terminals to produce a novel graphical user

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[35] Rudra Sil and Peter J. Katzenstein, "Analytic Eclecticism in the Study of World Politics: Reconfiguring Problems and Mechanisms across Research Traditions," *Perspectives on Politics* 8, no. 02 (June 2010): 412–413.

[36] Duggan, *Strategic Intuition*, 4, 31–34.

interface.[37] Because the relationship between these seemingly unrelated ideas is not explicit, simple concentration does not provide the same result. Because this process is intuitive, unexpected, and dependent on known information, eclectic knowledge provides the vital store of diverse ideas from which the mind may create novel associations, and consequently, a broad capacity for orientation.[38]

Existing descriptions of strategic genius emphasize a diversity of knowledge, but usually only in the areas familiar to military professionals: military history (Patton and Moltke) or tactics and military science (De Saxe, Bulow and Jomini).[39] Clausewitz, while not prescribing a specific field of knowledge as vital to achieve what he termed *military genius*, upholds practical experience as the key to achieving a rapid understanding of a battlefield situation.[40] Additionally, Clausewitz lists knowledge of relevant military histories and theory as an important intellectual foundation to aid in deciding between the important and the trivial in war.[41] In a similar way, Duggan identifies deep historical knowledge as the secret behind Clausewitz's *coup d'oeil*.[42] While these singular or military-centric types of learning certainly form the foundation for robust military thought, they potentially form only the beginning of knowledge that supports a diversity of thought and thus a broad ability to orient and apply strategic genius.

The military practitioner who never studies beyond the familiar topics of military history and tactics certainly gains a store of knowledge (vertical thinking) but entirely misses the

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[37] Walter Isaacson, *Steve Jobs* (New York: Simon & Schuster, 2011), 41.

[38] Duggan, *Strategic Intuition*, 33–35.

[39] Ibid., 64; Helmuth Moltke and Daniel J Hughes, *Moltke on the Art of War: Selected Writings* (Novato, CA: Presidio Press, 1995), l. 1798; Azar Gat, *A History of Military Thought: From the Enlightenment to the Cold War* (New York: Oxford University Press, 2001), 34–35; 84–86; Antoine Henri Jomini, *The art of war* (Radford, VA: Wilder Publications, 2008), 43–51.

[40] Clausewitz, *On War*, 109, 120.

[41] Ibid., 143, 577–578.

[42] Duggan, *Napoleon's Glance*, 271–272.

opportunity to combine a host of ideas into innovative thoughts. Rupert Smith recently highlighted how the blurring of lines between combatant and non-combatant, military and political, state and non-state in modern war creates the need to meet this challenge with a greatly increased diversity of perspective.[43] In an asymmetric conflict, a company commander's knowledge of economic *game theory* and *Nash equilibrium* might create a sudden realization that political choices within a contested village tend towards a predictable compromise of power.[44] In a similar way, a computer engineer may realize an entirely new form of microchip infrastructure by studying biology and social psychology or an international aid planner might discover a wholly new way of implementing aid by examining *edge of chaos* complexity science.[45]

Note that this diverse, lateral thinking does not eschew vertical thinking; in fact, it requires it. Only in the combination of both robust vertical thinking (thorough understanding of one's own profession) and broad lateral thinking can a leader achieve the openness and variation of perspective necessary to broadly orient and arrive at novel ideas. An example of this rare combination of open thinking exists in the Roman general Scipio Africanus during the Second Punic War against the African state of Carthage.

In 216 BC, the Roman Republic faced what seemed to be an intractable foe: the Carthaginian army under the command of the unstoppable Hannibal. Hannibal's army audaciously invaded Iberia, marched across the Alps, defeated a large Roman force and

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[43] Smith, *The Utility of Force*, 413–415. Though Smith provides an excellent treatment of what he describes as "war amongst the people," his final prescriptions for institutional military transformation fall short in their assumption that to deal with the increasing complexity and decreasing boundaries between the military and the civil, organizations must increase the interdisciplinary nature of staffs. While this course may be wise, it is insufficient. As this monograph argues, meeting environmental complexity with organizational diversity fails to recognize the capacity for diversity of perspective in a single, open human mind.

[44] Roger Myerson, "Nash Equilibrium and the History of Economic Theory," *Journal of Economic Literature* 37, no. 3 (September 1999): 1067–1073.

[45] Ben Ramalingam, *Aid on the Edge of Chaos: Rethinking International Cooperation in a Complex World* (Oxford: Oxford University Press, 2013), 260–264.

threatened Rome itself. Scipio Africanus, recently appointed proconsul of Spain and commander

of the Roman army received a mandate from the senate to meet and defeat Hannibal in battle.[46]

The norms of warfare at that time sought pitched battles for success and the Roman Senate,

understandably apprehensive of Hannibal at their back door, clamored for a decisive victory in

the field. Despite this fact, Scipio visualized the problem from a novel perspective and developed

an entirely unexpected approach. Rather than attack Hannibal's army, Scipio rapidly marched his

forces deep into Carthage's occupied Iberian territory and sacked New Carthage, the regional seat

of Carthaginian power and Hannibal's base of supply. This radical approach dislocated Hannibal's

army, removed his regional political support and set the conditions for the future Roman

victory.[47]

How did Scipio arrive at such a novel thought? Roman generals served political roles that

almost superseded their military duties. Because of this requirement for political acumen, Scipio

possessed a capacity for orientation to a problem beyond the typical military perspectives. A

lifelong student in the classical Greek style, Scipio possessed a highly *lateral* background in

logic, ethics, astronomy, geometry, biology and mathematics. Yet Scipio also held a robust

vertical knowledge of military tactics, strategy and theory.[48] This diverse perspective explains

Scipio's consistent ability to broadly orient to problems and for what theorist Basil Liddel-Hart

termed the Roman's keen appreciation the "moral factor" in an operation.[49]

Certainly, a military leader requires expert knowledge of the profession of arms but this

knowledge is just the beginning of what should be a highly diverse perspective. Leaders

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[46] Basil Henry Liddell Hart, *Scipio Africanus: Greater than Napoleon* (Cambridge: Da Capo Press, 2004), 27–29.

[47] H. H. Scullard, *Scipio Africanus: Soldier and Politician*, Aspects of Greek and Roman life (London: Thames & Hudson, 1970), 56–62, 92–99; Liddell Hart, *Scipio Africanus*, 27–30.

[48] Richard Gabriel, *Scipio Africanus: Rome's Greatest General* (Washington DC: Potomac Books, 2008), l. 336–337, Kindle.

[49] Liddell Hart, *Scipio Africanus*, 24.

exhibiting strategic genius, like Berlin and Tetlock's foxes, possess knowledge in a wide variety of areas such as history, philosophy, economics, political science, literature, math, sociology, engineering, theology and cognitive psychology. This eclectic knowledge forms the foundation for what becomes the spark of insight into the novel solution for the strategic problem.[50] While others see the world only from the perspective of a military practitioner (for example), leaders with strategic genius view the environment and problem from a wide variety of angles, allowing the possibility for highly novel solutions.

Strategic Thinking: Complex

An ancient Sufi parable describes a city whose inhabitants were all blind. When an elephant first came to the city, some of the inhabitants rushed to the creature to make an analysis. Each gravitated to some part of the beast and declared, based on the characteristics of that part, the nature of this new thing. One, feeling the ear determined that it was a type of large rug. Another feeling the trunk declared it to be a large pipe full of destructive power.[51] Rather than explore and understand the animal as a whole they rushed to judge the nature of the thing based on one or two aspects. While this example of poor analysis may seem simplistic, many professionals today do not vary far from this ancient fallacy. Instead of attempting to discern the complex interrelations of the whole environment, individuals latch on to their favorite element or means of analysis and describe the rest in that light. The complexity of the world often drives us to reject the non-linear *reality* for a simplified version that our minds can easily grasp. Linear cause and effect analysis prefers single-variable explanations. Yet this linear analysis fails to account for a far more complex real world. Complexity, however, is not an intractable foe of analysis.[52]

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[50] Duggan, *Strategic Intuition*, 33–35.

[51] Donella H. Meadows, *Thinking in Systems: A Primer* (White River Junction, Vt: Chelsea Green Pub, 2008), 7.

[52] Ibid., 4–6.

From 1993 to 1994 in the Afghan civil war, Junbish-i-Milli, the communist Uzbek group favoring a regional, secular state, defected from an alliance with the moderate Jamiat-i-Islami and made an unexpected alliance with the rival Jihadist group Hizb-i-Islami. Secular Communists sided with religious fundamentalists. More surprisingly, this same dynamic played out multiple times during the conflict with nearly every ideological group switching sides at least once and forming alliances that resulted in very strange bedfellows.[53] Fotini Christia examines the dynamics behind these strange alliances and finds that ideology, rather than acting as a primary motivation for joining a group with similar convictions, was often just manipulated by group leaders to maximize their strength. With this conclusion, Christia identifies these counterintuitive events as an *emergent pattern* that often plays out in civil war.[54] While not reducing the complexity of reality, she offers this pattern as one means to better understand the highly dynamic and interrelated nature of an environment. This capability to understand patterns and act in the midst of ambiguity describes a leader with *complex* thinking, the second trait of strategic genius.

Complex refers to a leader's perspective, method of analysis and ability to influence their environment. Instead of a *simple* perspective, they see the world as a *complex adaptive system*. Rather than seeking to scientifically reduce reality to a model or algorithm, their analysis seeks observable emergent patterns. Aware of unintended consequences, they work to influence the environment by harnessing these patterns within existing systems.

The human mind seeks out simplicity. In fact, when faced with apparent complexity, the mind rapidly (and often subconsciously) flattens out complexity to a more manageable set of simple, cause and effect relationships.[55] In addition, certain types of problems drive certain perspectives for understanding the problem, and these perspectives carry such strong bias that

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[53] Fotini Christia, *Alliance Formation in Civil Wars* (Cambridge ; New York: Cambridge University Press, 2012), 62–67.

[54] Ibid., 32–35.

[55] Ramalingam, *Aid on the Edge of Chaos*, 137–138.

individuals favoring one perspective will likely ignore or reject the other two.[56] This penchant for simple understanding analytical bias led Warren Weaver to author a landmark essay in 1948 that highlights this trend and categorizes three types of problems in the world: problems of *simplicity*, *disorganized complexity*, and *organized complexity*. Problems of simplicity involve a very few number of variables held in isolation and assume clear cause and effect such as when a linear force is applied to a pendulum. These problems are the bailiwick of traditional scientific analysis that seeks to answer *how* things interact. A leader favoring this perspective usually sees a problem as comprised of a few, clearly linked elements. In this way of thinking, variable X interacts with Y and produces Z. Problems of disorganized complexity, by contrast, involve billions of ambiguously related variables that eschew individual analysis. Such problems might involve the interaction of particles in the ocean or the bandwidth usage of a network exchange. Individuals holding to this perspective seemingly rise above the details and simply look to answer *what outcome?* via the statistical analysis. The interactions between variables here are so ambiguous or numerous that the only effective analysis lies in numerical averages measured from outcomes.[57]

Weaver identifies organized complexity as a third perspective on problems and one that, regardless of number of variables, sees self-organization in complex environments and fundamentally seeks to known *why* variables interact as they do. This concept marks the beginning of the field of study known today as complexity science. In the late Twentieth century scholars added the concepts of systems thinking, competition, and adaptation to form what is know today as a complex adaptive system (CAS) perspective.[58] Such a perspective applies to nearly all military problems involving human actors who competitively adapt strategies and

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[56] Ibid., 133–139.

[57] Warren Weaver, "Science and Complexity," *American Scientist* 36 (1948): 536–538.

[58] Ramalingam, *Aid on the Edge of Chaos*, 135–138, 141–143.

desires to increase gains.[59] These aspects of a CAS environment combine to create highly non-linear cause and effect relationships. In this way, it is impossible to produce a predictive algorithm (X interacts with Y to produce Z) since competition and adaption lead to highly varied outcomes.[60] Rather than seeking linear simplicity or statistical averages, a CAS perspective sees an environment as comprised of any number of individual elements with strong interactions, self-organized in systems for various purposes. Rather than assuming systems that are closed to outside intervention (problems of simplicity perspective) or too chaotic to analyze (problems of disorganized complexity perspective) a CAS perspective assumes that all systems are open to constant change and interaction from other elements and systems and that these patterns of change and interaction emerge in a way susceptible to analysis.[61] A central problem in many leader's inability to effectively act in complexity lies in their foundational perspective: they assume an environment of simplicity (for that might be their only perspective) in a reality of organized complexity.[62] While this CAS perspective affords a leader a more realistic view of a problem, how can they move to effective analysis of such an ambiguous environment?

Frederick Hayek, in his 1974 Nobel acceptance address noted that "[mankind] will have to learn that in this, as in all other fields where *essential complexity of an organized kind prevails,* he cannot acquire full knowledge which would make mastery of events possible (emphasis

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[59] Frans Osinga, *Science, Strategy and War the Strategic Theory of John Boyd* (New York: Routledge, 2007), 124.

[60] Edward Lorenz, *The Essence of Chaos* (Seattle: University of Washington Press, 1995), 6–9. Lorenz highlights the difference between purely random outcomes where cause and effect are independent and deterministic outcomes where cause directly and linearly links to effect. In between these extremes he places the ideas of *chaos,* defining it as apparent randomness masking some level of determinism. This definition closely matches the CAS perspective on the world where cause and effect are highly non-linear. The difference in a CAS perspective lies in the idea that, unlike Loernz's idea of applying mathematical modeling to gain prediction, a CAS cannot be reduced to an algorithm due to its competitive and adaptive nature.

[61] Meadows, *Thinking in Systems*, 11–16.

[62] Ramalingam, *Aid on the Edge of Chaos*, 135.

added)."[63] While a CAS environment might prevent total understanding, certain emergent

patterns within the systems create opportunities for highly effective analysis. These patterns

possess characteristics and purpose that the individual components do not hold. An individual

neuron does not posses consciousness while a complete brain certainly does.[64] An individual

person might strongly resist temptation to commit atrocities but a huge crowd is often capable of

incredible barbarity. An individual Islamic fundamentalist would not likely ally with a secular

communist group but a large Islamic group just might. Individuals seeking peaceful civil

resistance have little influence on a population but once those individuals achieve 2.5 percent

support the government faces only a fifty percent chance of sustaining the status quo; with five

percent support, change is almost certain.[65] A single act of Russian border aggression does not

appear remarkable, but a highly coordinated and nuanced political and military campaign across

multiple contested regions might garner the term "hybrid warfare."[66] Jamshid Gharajedaghi calls

these emergent patterns the "second order machine" that lies beneath the observable actions in a

system. Though often difficult to identify, these patterns guide (often without the knowledge of

actors in the system) the direction and strength of the system.[67] Such emerging patterns are

tendencies of systems and their identification does not reduce complexity but rather describes

potentials and likelihoods that leaders can exploit.

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[63] Frederick Hayek, "Nobel Acceptance Speech", 1974, in Ibid.

[64] Robert M Axelrod and Michael D Cohen, *Harnessing Complexity: Organizational Implications of a Scientific Frontier* (New York: Basic Books, 2000), 15.

[65] Erica Chenoweth, "Why Civil Resistance Works," *International Security* 33, no. 1 (2008): 7–44.

[66] "From Cold War to Hot War," *The Economist*, February 14, 2015, accessed February 26, 2015, http://www.economist.com/news/briefing/21643220-russias-aggression-ukraine-part-broader-and-more-dangerous-confrontation.

[67] Jamshid Gharajedaghi, *Systems Thinking: Managing Chaos and Complexity: A Platform for Designing Business Architecture* (Boston: Elsevier, 2006), 118–119.

Yet even within complexity science there exists a tension regarding how one might identify these patterns. Despite complexity science's roots in the need to avoid reducing problems to predictive algorithm, this is just what many leading figures in the field propose. Given the discipline's close ties to computer science, statistical analysis, and other highly empirical fields of study, many scholars who decry reductionism and linear prediction at the same time propose *bottom-up computer modeling* as a means to identify emergent patterns. While this form of modeling avoids the highly reductionist tendencies of top-down statistical analysis, it nonetheless closes the system to many of the real-world variables that influence outcomes. Additionally, while beneficial in identifying some archetypal patterns within systems, such methods tend to increase a belief in the predictability of a system over time.[68] Despite the popularity of this modeling method for analyzing complexity, the reality of competitive and adaptive environments in which military professionals operate involve interactions that often defy computer modeling.

Consider two identical spheres exerting gravitational pull upon each other. Imagine these spheres starting from random positions in a three dimensional space. An observer might easily forecast the motion of these two spheres (with relative accuracy) and mathematicians could create an algorithm to perfectly predict the position of the spheres at any point in time. Now add a third sphere to the same situation. Suddenly, the movements of the spheres become chaotic and impossible to mathematically predict (see Figure 2).

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[68] Ramalingam, *Aid on the Edge of Chaos*, 146, 176; Dietrich Dörner, *The Logic of Failure: Recognizing and Avoiding Error in Complex Situations* (Reading, MA: Addison-Wesley, 1997), 80–88; Yaneer Bar-Yam, *Dynamics of Complex Systems*, Studies in nonlinearity (Reading, Mass: Addison-Wesley, 1997), 8–9, 187–188. One of the leading systems thinkers, Donella Meadows, decries this tendency. See Meadows, *Thinking in Systems*, 166–167. A primary example of such bottom-up modeling is the recent concept of Agent-Based Modeling (ABM). This form of modeling, rather than observing the interactions of thousands of similar elements in a controlled system, ascribes adaptive agency to each element. The result is a far more robust picture of how real actors might respond to each other in an environment. While helpful for determining some potential patterns, ABM is nonetheless reductionist to the degree that it cannot account for number of variables in real environments, irrational decisions by actors, and other more nuanced aspects of the real world.
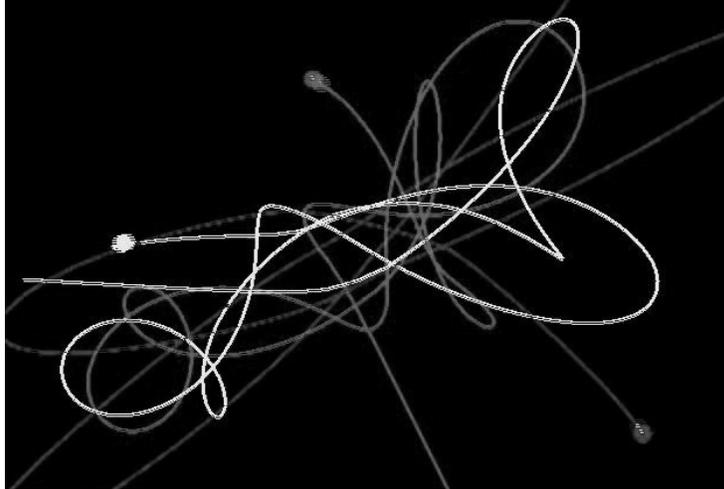
Figure 3. Three-Body Problem

Source: Daniel Piker, "Three Body Problem in 3D," accessed March 22, 2015, https://vimeo.com/11993047.

This intractable *three-body problem* appeared in 1889 when French mathematician Henri Poincare, after receiving a coveted prize in mathematics, discovered his award-winning predictions regarding three bodies in space to be wrong. Except for a very few, highly controlled starting positions, no computer model can predict the position of the spheres in the Three-Body Problem.[69] If this problem involving only three elements in a sterile environment defies modeling, how much more resistant are real world military and political problems? If modeling is of limited utility, what tools of analysis exist to identify emergent patterns and tendencies for these problems?

Consider again the three-body problem. If one watches the movement of the spheres in real time, a critical factor becomes apparent. Though the movement is irreducibly complex, the

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[69] Florin Diacu, "Poincaré and the Three-Body Problem. By June Barrow-Green," *Historia Mathematica* 26, no. 2 (May 1999): 107.

human mind's capacity for abstraction begins to discern certain patterns within the complexity. At times, one of the spheres slingshots away from the two other spheres which, left mostly to themselves, begin for a time to rapidly orbit each other in a relatively predictable way. Figure 3 shows how this temporary pattern of behavior becomes obvious to the human eye. While certainly not a perfect picture of future action, such emergent behaviors provide the critical means by which leaders can understand and take meaningful action within complex systems.[70] The key to recognizing this emergent behavior is not found in an algorithm or statistical analysis but in the leader's mind. Mathematical algorithms still cannot discern the emergent tendency that the mind can identify within a few seconds.

Figure 4. Emergent Pattern in the Three-Body Problem

Source: Daniel Piker, "Three Body Problem in 3D," accessed March 22, 2015,
https://vimeo.com/11993047.

Despite this reality, Freedman contends that an individual leader or strategist with the capacity to consider the immense number of interactions and constraints within the complexity of the real world does not exist–the demands are just too high.[71] Yet Shimon Naveh makes the point that well prior to the revolution in military technology, leaders such as Wellington in the

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[70] Robert Jervis, *System Effects: Complexity in Political and Social Life* (Princeton, N.J.: Princeton University Press, 1997), 12–16.

[71] Freedman, *Strategy*, 237–240.

Peninsular Campaign and Moltke at the end of 1870 thought of the environment as complex

systems and achieved remarkable results.[72] While the human mind likely does not possess the

capacity to simultaneously consider all elements and interactions of an environment as a whole,

this is not the standard of performance for the *complex* thinker. Knowledge of emergent patterns

dramatically reduces the need to hold all aspects of a system in mind. While the aforementioned

computer modeling of an environment might provide a level of useful (albeit reductionist)

emergent patterns, this method is incomplete and of limited utility to the leader who is often

constrained by Freedman's concerns of time, resources, and brainpower. Significant means exist,

however, to aid a leader's identification of patterns with a CAS.

Most emergent patterns come in similar forms or *archetypes* across many CAS

environments.[73] These archetypal patterns might describe the way that individuals competitively

interact over time as seen in economic game theory or may show how states consistently assume

that their benign actions will be interpreted by opposing states as equally benign (often with

unintended results).[74] Knowledge and study of potential pattern archetypes can greatly enhance a

leader's capacity to rapidly observe and influence emergence in a system.[75]

If a leader is not a complex thinker but rather views their environment as containing

problems of simplicity they likely apply what Ben Ramalingam terms the "divide and conquer"

method of action. This leader simply divides the problems into manageable chunks and targets

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[72] Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, The Cummings Center Aeries 7 (Portland: Frank Cass, 1997), 49.

[73] Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (New York: Doubleday/Currency, 2006), 94–113.

[74] Clark C. Gibson, *The Samaritan's Dilemma: The Political Economy of Development Aid* (New York: Oxford University Press, 2005), 41–45.

[75] Political scientist Craig Parsons lists four categories of emergent causality that a leader can apply to situations when searching for patterns: *structural* (the physical, geographic, and functional patterns*), *ideological* (belief-based patterns*), *institutional* (inefficient and deleterious norms and laws that pattern behavior*), and *psychological* (irrational patterns of action). See Craig Parsons, *How to Map Arguments in Political Science* (New York: Oxford University Press, 2007), 12–15.

the most vulnerable variables and is subsequently baffled when they don't achieve the expected results.[76] As opposed to this perspective of simplicity, the emergent patterns of a CAS perspective offer significant leverage within the system. This notwithstanding, the fact that systems have their own strength, direction, and purpose tempers a leader's ability to achieve their objectives. Rather than attempting to attain final objectives, the ancient sage Sun Tzu recommends that leaders observe the specifics in a situation to identify the inherent tendencies (emergent patterns) and then to act to transform those tendencies to one's advantage. This is a radically different way of thinking for Western-educated professionals who imagine the ideal and then chart a course to reach it.[77] Instead of envisioning the current environment, an end state, and identifying the problem that keeps one from reaching this goal, Sun Tzu says to first observe the situation and recognize how to adjust the trajectory of the system to bring about a more favorable outcome.[78] Rather than ends-ways-means, he advocates for identifying conditions and shaping consequences. If there is a prevailing unexamined or unrecognized bias in the environment, exploit it. If an enemy consistently tends to overextend supply lines during operations, lure them to extend past their means.[79]

A problem arises when this idea of an altered system fails to take hold in reality. The leader tries to harness the trends in the system to bring about a more favorable condition, but the system doesn't respond as they hoped. How can a leader realize their conception of transformed systems? Using emerging patterns to one's advantage tends to focus effort on creation of a *product,* a transformed system that brings the leader closer to the desired state. This emphasis on product is what Klaus Krippendorff identifies as the fundamental flaw in understanding an

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[76] Ramalingam, *Aid on the Edge of Chaos*, 141.

[77] Roger T. Ames, *Sun-Tzu: The Art of Warfare* (New York: Ballantine Books, 1993), 119–121.

[78] Ibid., 55–56.

[79] François Jullien, *A Treatise on Efficacy: Between Western and Chinese Thinking* (Honolulu: University of Hawaii Press, 2004), 16.

environment and taking effective action. Products are important, but Krippendorff advocates for a foundational focus on *discourses*, well before products. Discourse refers to the set of language, biases and normal solutions that meet with common acceptance in a system.[80] For example, *decisive military action*, as a term, engenders great support from the defense community but is almost anathema among US Agency for International Development (USAID) professionals. The prevailing discourse in these two communities is very different yet common elements *do* exist. *Democratic values, human rights,* and *freedom from oppression* would likely resonate well across both groups. As a leader considers how to act effectively in a CAS environment, they should seek to design not only a more favorable system (designing a product from their perspective) but also a system that resonates well in the greater context (designing a discourse). In this way, offering a slightly reduced NATO presence near Transnistria, Ukraine, Estonia and Georgia might gain some concessions from Moscow (product-focused) while couching the same action as part of a greater effort to partner *with* Russia against a common emerging enemy of the Islamic State (discourse-focused) might help to deescalate the conflict.[81] Effective solutions must fit within the patterns of their context.

Thus a *complex* thinker recognizes the need to harness emergent patterns in complexity but, in addition to this, they also appreciate the limits of acting in complexity and the high likelihood of unintended consequences. As evident in the difficulty predicting the future in the three-body problem, an aware leader sees that the highly non-linear, and changing nature of their operating environment ensures that the same action will often produce different results over time.[82] The immensely interconnected nature of the same environment also makes a leader highly

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[80] Klaus Krippendorff, *The Semantic Turn: A New Foundation for Design* (Boca Raton: Taylor & Francis, 2006), 26–28.

[81] This example greatly simplifies the highly complex nature of strategic interactions with Russia. The intent is not to provide a realistic course of action for engagement but rather an example of how an approach may work with relevant discourses to greater effect.

[82] Jervis, *System Effects*, 7–11.

skeptical of what they can really know about a system. In such ambiguity, a *probing* rather than decisive action can create opportunity to learn more about the system and how it responds to input.[83] This probing allows the leader to observe the system's interactions and identify more emergent patterns over time before taking more direct action.

To this point even Napoleon seems to have thought in these terms when he, rather than brashly taking direct action, sought to use the tendencies within the complex environment to his advantage: "The fact was that I was not a master of my actions, because I was not so insane as to attempt to bend events to conform to my policies. On the contrary, I bent my policies to accord with the unforeseen shape of events."[84] Clausewitz says that in war "Its violence is not of the kind that explodes in a single discharge, but is the effect of forces that do not always develop in exactly the same manner or to the same degree."[85] Because of this tentative nature of action in a complex environment a *complex* thinker holds loosely to their plan, always ready to adapt their approach to the ever-changing system.

Strategic Leadership: Courageous

In the late 1970s, an innovative thinker began to make waves within the US Air Force and the Department of Defense's upper echelons. Col John Boyd, once the service's top fighter pilot and then its pioneering engineer, developed a counter-cultural theory of warfare. His perspectives (many of which undergird the arguments in this monograph) called for a revolutionary transition away from an attritionist doctrinal mindset to one of proactive adaptation, depth, and operational shock. Exhaustively researched and meticulously developed, Boyd's theory for effective warfare (greatly simplified in his concept of the *Observe, Orient, Decide, Act* cycle) impacted squarely upon the Air Force's technology centric ideas and the Army's doctrine

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[83] David Snowden and Mary Boone, "A Leader's Framework for Decision Making," *Harvard Business Review* 85, no. 11 (November 2007): 68–74.

[84] Duggan, *Strategic Intuition*, 76.

[85] Clausewitz, *On War*, 86.

of Active Defense. Though initially very slow to gain support, Boyd's counter-cultural ideas on warfare continue to influence military thinkers and challenge doctrine. Derived from Boyd's theorem, the US Army's newest Operating Concept "Win in a Complex World" envisions leaders who "present adversaries with multiple dilemmas" to achieve cognitive shock rather than attrition.[86] Time and again, Boyd relentlessly attacked his own biases about effective warfare and then willingly opposed institutional norms to apply his new discoveries to theory and doctrine.[87]

Strategic genius does not merely consist of diverse and complex thinking to garner innovative solutions, but also *strategic leadership* (see Figure 5)*. Strategic leaders are first *courageous* in confronting their own biases and then the biases of their institution. This intellectual courage to resist cultural, institutional, or personal bias links closely with Clausewitz's idea of *courage d'esprit,* the courage to accept responsibility and the determination to see a plan through to fruition.[88]

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[86] TRADOC Pamphlet 525-3-1, *The U.S. Army Operating Concept: Win in a Complex World*, iii.

[87] Robert. Coram, *Boyd: The Fighter Pilot Who Changed the Art of War* (New York: Back Bay Books, 2004), l. 5974, Kindle.

[88] Clausewitz, *On War*, 102.

Strategic Genius

Strategic Thinking

Strategic Leadership

Diverse — Lateral thinker — Broad ability to orient

Complex — Harnesses emergent patterns — Expects the unintended

Courageous — Considers biases — Willing to resist institutional norms

Compelling — Integrates social trends — Achieves buy-in
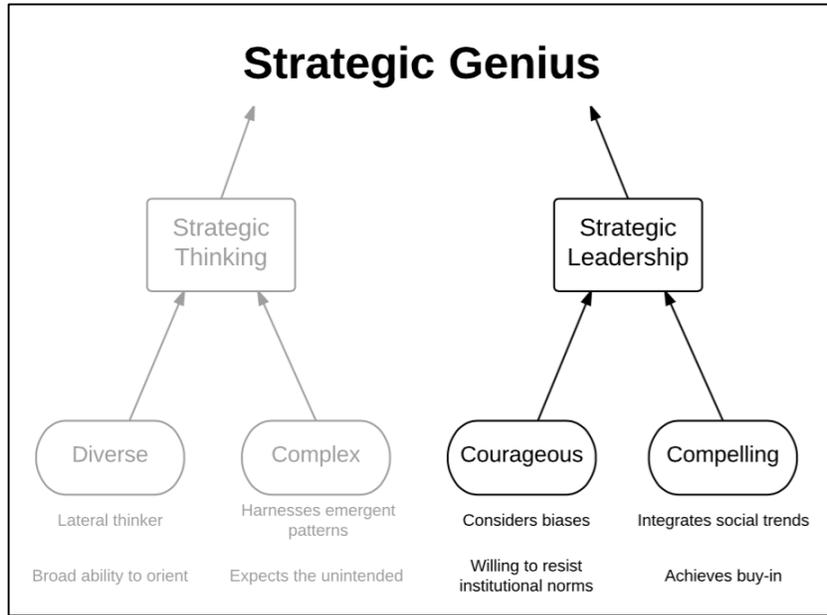
Figure 5. Strategic Leadership

Source: Created by author.

All institutions, and the people within them, operate with some degree of biases and heuristics.[89] These culturally enforced standards prove vital for day-to-day situations as they provide highly efficient means to communicate and operate within changing contexts. An Army unit preparing for a National Training Center exercise rapidly achieves cohesion and synchronized effort through doctrinal and procedural biases. Disparate USAID offices effectively plan and engage a Liberian Ebola outbreak via their well-suited institutional heuristics regarding aid and logistics. While these biases are important to make day-to-day activities efficient, they also indirectly create a force that Richard Rumelt referred to as *institutional inertia* that resists

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[89] Hatch, *Organization Theory*, 185–188.

change in favor of the status quo.[90] This problem only worsens in strategic-level organizations that rely on significant bureaucratic systems for normal operations.[91]

Kuhn, in his landmark description of the inner workings behind revolutions of thought, provided some insight as to why humans so often favor the status quo over novel ideas. He highlighted that the establishment of academic and institutional traditions within a school of thought creates the unintended consequence of a system that resists ideas that might disrupt or destroy the same institution's foundational biases. Institutions create textbooks, standards and doctrine (among other things) in order to increase homogeneity of thought, educate new practitioners and develop common terminology. These same standards act to solidify prevailing beliefs as *incontestable fact* and to oppose ideas that might cause a deviation from the status quo. Promotion, tenure, publishing, and academic instruction all support adherence to these status quo perspectives. Because of this tendency, revolutions in thought usually result not from within the institutions (e.g., why would one want to risk tenure by challenging ideas?) but from the periphery of ideas outside intellectual norms.[92] Leaders and thinkers not firmly entrenched in the institutions have less to lose by forwarding new ideas and more to gain by creating their own institutional paradigm shift. Unchallenged norms become rules and rules, over time, become de facto law. [93] In Boyd's words "it's doctrine on day one; every day after it becomes dogma."[94] This propensity for resistance to institutional norms creates the need for leaders who, when necessary, willingly oppose institutional biases to achieve novel and innovative solutions.

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[90] Richard Rumelt, "Inertia and Transformation," in *Resources in an Evolutionary Perspective: Towards a Synthesis of Evolutionary and Resource-Based Approaches to Strategy*, ed. Cynthia Montgomery (Norwell, MA: Kluwer Academic Publishers, 1995), 102–103.

[91] Krepinevich and Watts, "Regaining Strategic Competence: Strategies for the Long Haul," 10, 50.

[92] Kuhn, *The Structure of Scientific Revolutions*, 80–91.

[93] Lawson, *How Designers Think*, 247.

[94] "John Boyd on Doctrine," accessed March 19, 2015, https://www.youtube.com/watch?feature=player_embedded&v=heWpHSOMAmY.

Neil Browne and Stuart Keeley termed this willingness to continually question one's

perspective *strong sense critical thinking.* Rather than simply defending one's own perspective,

leaders with this trait aggressively examine their own and their institution's biases, eagerly

seeking new solutions.[95] In the 1980s, John Warden applied this form of thinking to challenge the

the Air Force's attritionist view of an enemy. This effort resulted in his five-rings theory of

strategic targeting which led to great operational success in the Gulf War of 1991.[96] Strategic

leadership requires the courage to deeply consider not only one's own biases but also those of

prevailing institutions. This consideration often reveals the need to resist these strong norms in

order to bring about effective ideas.

Strategic Leadership: Compelling

While strategic leadership requires the courage to consider and resist personal and

institutional biases, the form that resistance takes proves even more vital to bring innovation to

fruition. While John Boyd certainly offers an excellent example of the courage required to

champion new perspectives, his manner of communication greatly hampered his success. Though

his ideas would eventually gain acceptance by the Marine Corps, the rest of the services soundly

rejected not only Boyd's ideas, but Boyd himself. Widely known in the Pentagon for his

excessively abrasive and arrogant style, Boyd garnered the hatred of almost every senior officer

he encountered. Only one Airman attended his funeral. Despite his remarkable penchant for

innovation, Boyd consistently displayed a major weakness: the inability to communicate his

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[95] M. Neil Browne, *Asking the Right Questions: A Guide to Critical Thinking* (Upper Saddle River, NJ: Pearson Prentice Hall, 2007).

[96] Richard T Reynolds, *Heart of the Storm: The Genesis of the Air Campaign against Iraq* (Honolulu, Hawaii: University Press of the Pacific, 2002), 15–19, 28–31. Because of the effectiveness of Warden's theories in 1991, even this theory became the institutional norm for strategic targeting. While of some effectiveness in a clearly defined conventional battle, Warden's ideas hold limited utility in modern conflicts with highly blurred lines between combatant/non-combatant and start/stop of hostilities. Where Warden focused on physical shock, a better approach today is found in cognitive shock as advocated by John Boyd. See Osinga, *Science, Strategy and War the Strategic Theory of John Boyd*, 188.

counter-cultural perspectives in a compelling manner. Indirectly, Boyd illustrates that a diverse and complex strategic thinker and courageous strategic leader (which he was) does not make a strategic genius. These elements must combine in a leader who is *compelling,* the final trait of strategic leadership. The compelling strategic leader achieves organizational buy-in for their ideas and harnesses social trends to generate enthusiasm and support.[97]

Bryan Lawson highlights multiple studies of cognition and creative thinking that reveal what one might term a *paradox of innovation:* those who are more inclined to develop innovative, creative solutions also tend to be self-centered, independent and not particularly concerned with what others think about them. This tendency can manifest itself in an abrasive, arrogant or aloof style that, while still effective in generating innovative ideas, is far from the compelling manner needed to translate innovation into institutional action.[98] How can leaders communicate in such as way as to generate the required buy-in for their ideas?

Dale Carnegie's timeless text on positive communication highlights several vital abilities leaders require in order to engender others to new ideas. Compelling communicators never imply that the other person nor their perspectives are wrong, but rather seek common ground from which to gently introduce the new idea. This technique avoids placing the other person on the defensive while engendering them to the commonalities between both perspectives.[99] Peter Senge refers to this method as *dialogue* rather than *discussion.* Here, a compelling leader consistently considers, acknowledges and even encourages other perspectives. Rather than going to intellectual corners and fighting out a rhetorical battle, the leader advocates for examination of all

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[97] Coram, *Boyd*, l. 5974.

[98] Lawson, *How Designers Think*, 152.

[99] Dale Carnegie, *How to Win Friends and Influence People* (New York: Simon and Schuster, 2009), 211–214.

ideas allowing every individual the opportunity to vent concerns and provide meaningful critiques. As a result, the leader appears less confrontational and their ideas more palpable.[100]

In a similar way, Simon Sinek argues that winsome leaders must resist the human tendency to simply state the *what* of an idea and rather start communication with the *why*, the emotive appeal, of a new perspective. Apple, the innovative computer manufacturer, when beginning a commercial, avoids the norm of presenting the product (the *what*) and demonstrating the features (the *how*) but rather starts with the why: the narrator simply states that Apple prizes innovation and beauty in form and function. The consumer hears first the emotional reason for why Apple does what it does and then, and only then, does the commercial detail how a new product perfectly meets these values.[101]

Generating buy-in, however, is not simply an act of charismatic speech or structuring an argument. Ideas (new ideas especially) interact in various ways with other ideas in an institution: some in cooperation, some in competition, and some entirely independent.[102] Krippendorff calls this networked interaction an *ecology* of ideas. Any new idea necessarily relates to other established ideas. These ideas hold meaning for individuals and their institution. In this ecology, new ideas simply survive (no real buy-in), thrive (become dominant), or die. Compelling leaders map the current ecology of ideas, tracing their development and interdependence across time. From this knowledge, they seek out ways to fit their new ideas into the ecology in a cooperative (not competitive role). If individuals in the institution see that this new idea supports their own ideas, they will likely support it (or at least not oppose it). If little common ground exists in the

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[100] Senge, *The Fifth Discipline*, 221–232.

[101] Simon Sinek, *Start with Why: How Great Leaders Inspire Everyone to Take Action* (New York: Portfolio, 2009), 154.

[102] Krippendorff, *The Semantic Turn*, 184–185.

ecology, compelling leaders seek out incremental implementation of their idea in a way that does not excite the ire of established ideas.[103]

The ecology of ideas in an organization might appear via social trends, accepted terminology, prevailing theories, or codified doctrine. In this way, military thinkers advocating for *cognitive shock* as an operational method would have garnered little support from proponents of Active Defense doctrine in the 1970s but the same term might receive support in the current environment of complexity and non-state actors.

To a great extent, strategic genius consists of a strategic thinker's capacity for a diverse and complex perspective, combined with a strategic leader's courage and commitment to compelling communication. Though achieving this "harmonious combination of elements" presents a significant challenge, successful military leaders of the past exhibited this combination and produced unprecedented results.

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[103] Ibid., 180–185.

Three: Examples of Strategic Genius

Scharnhorst in Prussia

The humiliating defeat of the proud Prussian army at Jena and Auerstedt in 1806 came almost without warning. The aristocratic military leadership of the day, sourced entirely from the Prussian nobility, held strongly to the proven methods of military drill, linear attack formations and volunteer armies. These leaders gave little thought to what appeared to be new styles of warfare appearing after the French Revolution and simply added a few specialized units to meet the new threat. These minor adjustments to their tactical paradigm proved utterly ineffectual when, in a matter of hours, a vastly outnumbered and ill positioned French force decimated the Prussian army. The small voice of warning prior to this defeat came not from a Prussian but from a Hanoverian officer, Gerhard Scharnhorst, who changed his commission to the Prussian army only five years prior. His defection to Prussia came as a result of Hanover's unwillingness to consider his warnings and reforms after the 1792 War of the First Coalition. Scharnhorst saw something in the military theory arising from the French Revolution that required a wholly new view of not only warfare, but of society in general. It wasn't until the institutional shock of Jena-Auerstedt that Scharnhorst and his reforms came to prominence in Prussia. In one of the most dramatic military reformation in history, Scharnhorst effectively molded the Prussian army into a radically new force based on broad education, conscription, promotion by merit, a permanent general staff, and non-linear tactics. This new army found great use in the War of the Sixth Coalition, resulting in Napoleon's eventual abdication, and was the foundation for the brilliant Prussian army of 1866 and 1871.[104]

Born to a family of humble means at the start of the German Enlightenment, Scharnhorst's early life afforded him a perspective outside that of the established nobility.

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[104] Charles White, *The Enlightened Soldier: Scharnhorst and the Militärische Gesellschaft in Berlin, 1801-1805* (New York: Praeger, 1989), 5–6; 182–184.

Entering a Hanoverian military academy at a young age, Scharnhorst studied under a central enlightenment scholar, Count Fredrich Wilhelm. Wilhelm introduced the young soldier to the concept of *Bildung*, the perfection of character and intellect through education. This concept, emphasizing the need for highly diverse self-education formed the foundation for all of Scharnhorst's later reforms. These ideas ran entirely counter to the anti-intellectual Prussian aristocrats who, in areas of military education, saw no need for any study beyond rigorous drill and discipline.

Charles White highlights how, coming to believe that prescriptive or detailed military theory necessarily limited divergent thought, Scharnhorst embraced Immanuel Kant's exhortation to "reject dogmas and formula — those 'mechanical tools designed for reasonable use' but transformed by princes into 'the fetters of everlasting nonage.'"[105] Constantly aware of the tendency to stovepipe thought into prescriptive theory, Scharnhorst wholly rejected the reductionist theories of Bulow and Jomini.[106] During his tenure instructing at the War Academy of Berlin his primary concern centered around providing a rigorous and diverse education to officers and to prevent their adherence to only one perspective on warfare.[107]

When considering the aftermath of 1792 and 1806, Scharnhorst's diversity of views made him one of the first military thinkers to see the problem of reform from a socio-political rather than military perspective.[108] To him, the strength of the French lay not in their operational maneuver or tactics but rather in their ability to harness the energy inherent in their population for the purposes of war: *levée en masse* over volunteer standing armies. Rejected by Hanover and once in the Prussian army, Scharnhorst consistently advocated for harnessing this same pattern of

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[105] Ibid., 1–2.

[106] Peter Paret, *Clausewitz and the State: The Man, His Theories, and His Times* (Princeton: Princeton University Press, 2007), 71.

[107] Ibid., 69.

[108] *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, Princeton paperbacks (Princeton: Princeton University Press, 1986), 189.

strength within a population. From this perspective, universal Prussian conscription could replace the tendency towards a mercenary spirit (prevalent in the army of 1806) with a nationalistic motivation to reclaim and defend the homeland. Scharnhorst saw that the German enlightenment created a desire for position and accomplishment in the middle class of society and that a new system of promotion based on merit rather than nepotism could harness this desire. What he envisioned was nothing less than an entire upheaval of the Fredrician system of aristocratic privilege.[109]

In addition to conscription and promotion, Scharnhorst saw the Prussian rigid adherence to linear tactics as part of the problem. Not only were such stiff formations difficult and time-consuming to maneuver, their employment required close monitoring and changing the course of these formations, once committed, proved very difficult. No more than what David Chandler calls a "junta of septuagenarians," the Prussian aristocratic military leadership proved unsuitable for the task of effectively employing these challenging formations and tactics.[110] Scharnhorst believed that conscription and promotion reforms would produce a military force that, rather than dependent on harsh discipline and strong control, could exercise some level of autonomy in battle. This freedom would allow for more forms of maneuver and greater flexibility to react to changing conditions at lower levels of command. He met with stiff resistance from military conservatives who feared that a reduction in discipline would lead to a force incapable of withstanding volley fire and unwilling to respond to orders.[111] Rather than directly oppose these conservatives, Scharnhorst sought out a unit in which to test his ideas. He found it in the army's only regiment of dismounted *chasseurs*, known for their ability to fight in small, compact

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[109] Paret, *Clausewitz and the State*, 66.

[110] David G Chandler, *The Campaigns of Napoleon, Volume I* (New York: Scribner, 1995), 455.

[111] Hans Driftmann, *Grundzüge Des Militärischen Erziehungs- Und Bildungswesens in Der Zeit 1871-1939* (Regensburg: Walhalla, 1980), 37–38.

formations. While directing the training of this group, the reformer also guided multiple working groups and field manual committees in the development of the new non-linear tactics. These initially small actions had the two-fold effect of not sparking strong resistance from the nobility while also creating a new discourse for non-linear battle via manuals and institutional organizations. Rather than working against the systems, Scharnhorst used the institutions within the system to bring about a new, more favorable state of affairs.[112]

He knew that the existing military and social systems formed a complex web of interests that would surely resist his envisioned changes. Any reforms needed to resonate within the active discourses in Prussian aristocratic society.[113] To this end, Scharnhorst created the *Militarische Gesellschaft*, a military society for the promotion of innovative discussion and a vehicle for change. Since this group existed outside the normal military institutions, it held the capacity resist institutional biases in identifying new forms of warfare. Yet in order to realize this group's innovative ideas, Scharnhorst needed to align the organization and his purpose with discourses that would resonate with the Prussian nobility. To do this, Scharnhorst held the opening on the celebration day for Frederick the Great's birth. He couched the efforts of the society as a dedication to Frederick's military brilliance and achieved some buy-in from the nobility because of this connection.[114]

Yet good ideas, even when presented in ways that appeal to active discourses, proved not enough to generate the institutional momentum to realize his reforms prior to 1806.[115] In the aftermath of Jena-Auerstedt, however, Scharnhorst recognized that momentum had swung behind the idea of reform and he took bold strides to institute his ideas. Selected to lead a reform

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[112] Peter Paret, *The Cognitive Challenge of War: Prussia 1806* (Princeton: Princeton University Press, 2009), 88–94.

[113] Ibid., 88.

[114] Paret, *Clausewitz and the State*, 66.

[115] Driftmann, *Grundzüge Des Militärischen Erziehungs- Und Bildungswesens in Der Zeit 1871-1939*, 37–38.

commission, Scharnhorst set about codifying his idea, yet he resisted the temptation to take aggressive and sweeping actions, knowing that any change, even if sanctioned by the government would still meet with resistance and required a compelling style to bring it to fruition.[116] Again, working with the strength in the system, Scharnhorst couched his ideas as necessary small steps in the face of a crisis. The reformer's ideas took hold, resulting in gradual but real change in the areas of conscription, education, promotion and tactics.[117]

While Scharnhorst did not realize his full menu of reforms in his lifetime, it was precisely this capacity to seek incremental change and work within established discourses that made him so effective. As Peter Paret describes: "To win over skeptics and opponents, Scharnhorst minimized the innovative nature of his proposals by pointing to predecessors-real or assumed-in Prussian history, especially the practices of Frederick the Great. Unlike Clausewitz and some other of his followers, who tended to underline their break with the past, Scharnhorst emphasized continuity."[118] Scharnhorst combined every aspect of strategic genius for effective outcomes. In the face of a complex and adaptive environment, the reformer knew that he needed to tread softly, probing to see where small reforms took hold and then to capitalize on these successes.

Slim in Burma

During the difficult middle years of World War Two, in the mostly forgotten Southeast Asian region of Burma, the ostensibly superior Allied forces reeled under continuous Japanese advances. The Allies, comprised of a diverse mix of British, Indian, Chinese, African, Australian, and US forces continually retreated north from Rangoon, eventually crossing the border into India

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[116] Paret, *The Cognitive Challenge of War*, 72–72, 81–84.

[117] Driftmann, *Grundzüge Des Militärischen Erziehungs- Und Bildungswesens in Der Zeit 1871-1939*, 39–40.

[118] Paret, *The Cognitive Challenge of War*, 88.

(see Figure 3).[119] The Japanese simply outclassed the Allies in sustainment, initiative, and tactics. Allied troop morale crumbled in the face of the relentless Japanese "hook" tactic that consistently turned the flank of the road-bound allies.[120]
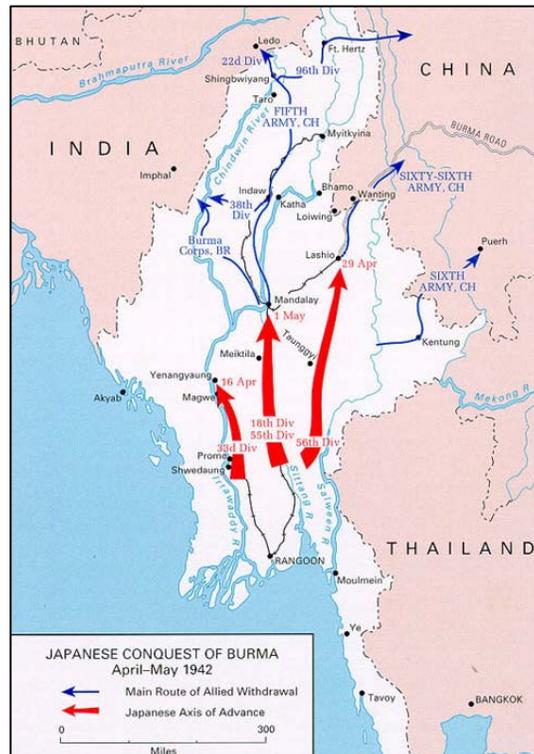

Figure 6. Burma Campaign, April-May, 1942

Source: Unites States Army Center for Military History, "Burma, 1942," *The US Army Campaigns of World War Two*, October 3, 2003, accessed December 14, 2014, http://www.history.army.mil/brochures/burma42/burma42.htm.

Continuous retreat was not an option. Despite its remote location, Burma held great strategic importance to the Allies for a number of competing reasons. The United States used the territory as a logistical hub for bomber aircraft based in China and well as for resupply to Chiang

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[119] Derek M. Salmi, *Slim Chance: The Pivotal Role of Air Mobility in the Burma Campaign*, Drew paper no. 15 (Maxwell Air Force Base, AL: Air University Press, Air Force Research Institute, 2014), 1–2.

[120] Robert Lyman, *Slim, Master of War: Burma and the Birth of Modern Warfare* (London: Constable, 2004), 62.

Kai-shek's Chinese nationalists.[121] The British faced the likely invasion of colonial India after the

fall of Burma through the vital port of Rangoon.[122] The combination of remarkably restrictive

terrain, rampant disease, nonexistent logistical infrastructure, abrasive coalition leadership, and

competing interests in Europe provided what most contemporary leaders believed to be an

impossible Allied situation.[123]

Into this challenging environment the British army elevated the unassuming William Slim

as commander of the 14th Army, controlling all land forces in the Burmese theater, alongside the

uncooperative American General Joseph Stilwell who guided the Chinese efforts.[124] Slim, having

participated at a lower level in the retreat into India, rapidly oriented to the complex environment,

identified his major problems as inadequate supply, failing health of the troops, and dwindling

morale.[125] Slim tackled each of these areas while turning efforts towards offensive operations.

After moderate success probing Japanese capabilities and several small victories along the

southern border into Burma in 1944, Slim focused on an expected Japanese main effort along the

middle of the border region. While awaiting the attack, Slim directed a controversial plan. Rather

than attacking the growing Japanese force in Burma, he opted to conduct an operational

retrograde further into India and array his force along the Imphal plains. The Japanese

commander Mutaguchi attacked as anticipated, could not dislodge the Allies, and began what

would become a strategic retreat south out of Burma garnering Slim a decisive operational

victory.[126]

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[121] Ibid., 12.

[122] Ibid., 9.

[123] Ronald Lewin, *Slim: The Standardbearer: A Biography of Field-Marshal the Viscount Slim* (Ware, Hertfordshire: Wordsworth Editions, 1999), 79–80.

[124] Lyman, *Slim, Master of War*, 12–13.

[125] William Slim, *Defeat into Victory: Battling Japan in Burma and India, 1942-1945* (New York: Cooper Square Press, 2000), 169.

[126] Robert Lyman, *Bill Slim: Leadership, Strategy, Conflict*, Command 17 (Oxford: Osprey, 2011), 53–57.

Widely read and constantly in study, Slim possessed an ability to bring a multitude of perspectives to a problem. Slim's preparation for the Burmese Campaign began decades earlier when he, lacking any nobility or significant income, chose diverse self-education as the key to success. Widely read, Slim spoke every non-African language within the coalition and held considerable logistical, political, and psychological knowledge. Slim's interests included not just landpower but also literature, writing, rhetoric, business, poetry, logistics, airpower, language, strategy, engineering, and cultural studies.[127] Even during his demanding years commanding the 14th Army he set aside an hour a day for reading material unrelated to his mission.[128]

Slim's diverse perspective allowed him to consider not only the Western but also the Chinese, African, and Indian concerns within the coalition. He did not see the challenges in the conflict from merely logistical or military force perspectives but also from medical, religious, socio-cultural, and political angles.[129] When attempting to raise morale of his defeated force after the retreat into India he applied his vast cultural and language knowledge to best address the sensitivities of each group. To the Americans and British, he appealed to grand religious motives by invoking the just nature of their cause in the eyes of God. To the Indians, he focused on the idea of duty that was central to the caste system. To Africans, he couched arguments in terms of tribal rather than national interests.[130] But culture was not everything: he would change his orientation to the problem moment by moment and apply his vast knowledge along with expert advice to effectively address malaria, logistics, or innovative doctrine.[131] Slim's diverse background helped him to apply B.H. Liddel-Hart's interwar doctrinal ideas of the *indirect approach* with many historical examples of commanders who successfully maneuvered their

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[127] Lewin, *Slim*, 49–62.

[128] Slim, *Defeat into Victory*, 213.

[129] Ibid., 182–183.

[130] Ibid., 182–185.

[131] Ibid., 169–177.

forces to advantage. This combination resulted in a tactical and operational style that continually surprised and outflanked the Japanese from 1943 to 1945.[132]

Slim understood the deep relationship of things in a conflict. While he could have viewed his problem in relatively linear terms (i.e., robust infrastructure leads to increased logistical throughput that leads to effective operations) Slim instead saw the complexity of the environment. When considering the monumental task of creating lines of supply from scratch through highly restrictive terrain, Slim recognized that the solution was not one of pure manpower but rather a complex and adaptive system of competing national interests, local power, cultures, resources, and training. He might simply have given an order to build a road but such an action might create a host of unintended consequences. The various coalition nations held different views regarding desired forms of work: Western allies held higher expectations of work conditions while others willingly built roads in even the most austere environments. A simple order to build a road might also neglect the problems of over one million ethnic Indians displaced after the sack of Rangoon who were hated by the Burmese. These same Burmese progressively allied with the Japanese as the expected victors and posed a threat to Allied forces.[133] Instead of direct action, Slim probed the coalition's various strengths, sensitivities, and interests. He discovered that the Nepalese and Africans held uncanny abilities to work in restrictive terrain while the Americans were unmatched in administration and engineering but proved less useful with the physical aspects of jungle construction.[134]

In 1943, knowing that he did not fully understand his adaptive enemy or the complexity of the environment, Slim avoided major direct action and instead launched probing attacks to

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[132] Lyman, *Slim, Master of War*, 2.

[133] Frank McLynn, *The Burma Campaign: Disaster into Triumph, 1942-45*, Yale library of military history (New Haven: Yale University Press, 2011), 30–31.

[134] Slim, *Defeat into Victory*, 171–173.

discern capabilities and the disposition of the Japanese. Continually learning from these smaller actions, the probes grew towards successful larger unit attacks of battalions and then brigades.[135]

In the area of morale, after identifying a pattern of soldiers *intentionally* contracting malaria in order to receive the customary five-month convalescent leave in India, Slim created forward treatment centers in Burma and reduced convalescent time to three weeks. By removing the unintended incentive to contract malaria, new cases in his troops plummeted.[136] Recognizing that any action in an operational environment produced scores of unintended consequences, Slim tempered his desire for short-term successes. In the face of a severe lack of meat food supplies in 1943, Slim resisted temptations to slaughter local cattle knowing that the apparent short-term gain would (because of a slow feedback loop) create a long-term problem with a starving and disgruntled civilian population.[137]

As he considered Mutaguchi and the Japanese forces, Slim did not frame his operational approach in traditional, force-centric terms but rather sought to identify any emergent patterns within the complex, adaptive enemy. Slim noted that Mutaguci displayed increasing levels of operational arrogance by often sacrificing large numbers of soldiers for objectives that seemed to only increase the Japanese commander's fame rather than achieve an operational goal. Mataguchi tended to overextend the operational reach of the Japanese forces and seemed to assume victory was near. Slim capitalized on these patterns in 1944 by planning an apparent retreat into the plains around Imphal, India. This operational retrograde used the emergent patterns of Mataguchi's aggressiveness to lure his forces into Slim's armored units, well suited for open battle on the plains. Slim thus fought a battle of attrition that, because of Mataguchi's stretched supply, the Allies eventually won.[138]

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[135] Ibid., 188–189.

[136] Ibid., 178–179.

[137] Ibid., 173.

[138] Lyman, *Bill Slim*, 53–57.

This retrograde plan onto the Imphal plains grated against the institutional norms of attacking an enemy on their territory before they reached full strength. Slim's superiors also resisted the idea of ceding hard-won terrain to the Japanese by falling back to Imphal. This action required additional resolve in that it appeared as a defeat to Slim's troops who, in their commander's eyes, were more susceptible to poor morale than enemy attack. Slim, however, was no stranger to resistance. When considering where to place intermediate medical facilities in preparation for the offensives of 1943, every medical corpsman advocated to Slim for placement on cooler, remote hilltops suited for rehabilitation. Slim, however, saw time as the critical factor in medical care and ordered the hospitals placed next to available airstrips. These airstrips were typically located in flat, hotter areas, sparking the fury of medical personnel who believed that such conditions would breed illness. Slim's plan of decreased response time spoke for itself when, in over 11,000 incoming causalities, only twenty-three died.[139]

Rather than force his will in these many counter-cultural efforts, Slim sought to engender support from his detractors rather than oppose them. His greatest challenge came in the form of the abrasive general Stilwell, US commander of Chinese forces in Burma. During the process of identifying the command relationships between the Allies and Chinese in 1943, Stilwell vehemently protested to the idea of falling under the command of one of the many British generals in Southeast Asian Command (SEAC). In one meeting with the Supreme Allied Commander of SEAC, British Admiral Mountbatten, Stilwell continually refused to subordinate himself to a British commander.[140] Rather than challenge this claim, Slim appealed to a common discourse by asking the American to detail his operational plan for the Chinese forces. After Stilwell laid out his plan, Slim simply complimented the idea and made no mention of command relationships. To everyone's surprise, the abrasive American suddenly declared that he would

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[139] Slim, *Defeat into Victory*, 180.

[140] Lyman, *Slim, Master of War*, 116, 120.

willingly subordinate himself to Slim (even though he outranked the British commander). Thus Slim gained command of all land forces along the Burmese front without incurring a fight with Stilwell over the strategic plan. Throughout their relationship, Slim discerned that Stilwell was much more amenable alone than in a meeting and so always sought to visit him in person, especially to request something that the American might not like. [141]

With all land forces under his command, Slim faced what he believed to be his most crucial task: the establishment of positive morale within a defeated force. His troop's fears of a jungle-mobile Japanese force with a penchant for envelopment went against his own desire to create formations capable of operating detached from clear lines of supply and reinforcement. Rather than forcing the point, Slim personally engaged every battalion within his command to address their concerns and garner their emotional support for his operational approach. He conveyed the logic of his plan in way that each formation would understand. His contemporaries noted the remarkable way in which he tenaciously advocated his innovative ideas through compelling, "down to earth" communication. When speaking, rather than expect his audience to adapt to understand *his* meaning, Slim started with the discourses that mattered to his audience and then adapted his message to fit.[142]

When talk proved insufficient, Slim responded with an equally compelling style. During logistical construction in 1943, when faced with the Chinese penchant for "liberating" anything not locked down—including a transport train—Slim refused to rebuke the Chinese. Knowing that coalition allies, even troublesome ones, were worth more than the sum of their infractions, he made no mention to the Chinese but simply ordered the engine of the "liberated" train detached and driven away during a routine stop, effectively resolving the situation. Rather than confront

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[141] Lewin, *Slim*, 139–141; Slim, *Defeat into Victory*, 205–208.

[142] Michael Calvert, *Slim* (New York: Ballantine Books, 1973), 10.

the Chinese for their larceny, he simply defused the situation but removing the means to transport the goods.[143]

When facing a remarkable set of operational problems, William Slim exhibited the combined traits of strategic genius. His diverse perspectives on complex problems matched with a compelling determination to see an innovative solution through to fruition. He resisted the temptation to view the environment in simple cause and effect terms but rather sought to identify emergent tendencies within his own and his enemy's forces that he took meaningful action against.

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[143] McLynn, *The Burma Campaign*, 33.

Conclusion

When preparing for the 2003 invasion of Iraq, General Tommy Franks, the Commander of US Central Command, laid out for the Deputy US Secretary of Defense his plan for the upcoming operation: "*You pay attention to the day after* and *I'll pay attention to the day of* (emphasis in original)."[144] In an understandable division of duties, the commander limited his perspective on the highly complex problem. This monograph highlights that strategic genius runs entirely counter to such a bifurcated view of the operational environment—effective understanding cannot exist in isolation. When dealing with complex adaptive systems in contemporary problems, leaders cannot afford to reduce their conception of the environment to limited perspectives nor can they assume that actions create clear cause and effect relationships. While reasons for the eventual Iraq quagmire are legion, the reality of well meaning but simplistic understandings of the world created a situation where, according to Gideon Rose "liberation turned into occupation; local ambivalence into insurgency and then civil war."[145]

Historical knowledge, robust military experience, and charismatic leadership—while each important—cannot alone achieve desired results for complex problems. An *unexpectedly relevant approach*—the product of strategic genius—eschews traditional forms of knowledge, experience, and leadership. The strategic genius that would envision such innovative approaches requires a unique combination of strategic thinking and strategic leadership. Such leaders do not focus only on their professional field of study but immerse themselves in a broad knowledge base to achieve highly diverse perspectives on problems. Instead of creating a plan to reach an end state, these leaders seek to identify and use the strength of emergent patterns and established discourses within the environment to achieve continuing advantage. In these actions, they expect

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[144] Tommy Franks and Malcolm McConnell, *American Soldier* (New York: Regan Books, 2005), 441.

[145] Gideon. Rose, *How Wars End: Why We Always Fight the Last Battle : A History of American Intervention from World War I to Afghanistan* (New York: Simon & Schuster, 2011), 3, 10.

that the system will change and anticipate unintended consequences; always ready to adjust their approach.

Yet these leaders also recognize that innovative approaches often reside outside what is acceptable in their own minds or acceptable by their military institution. Thus they maintain a constant vigilance against biases and, when necessary, willingly resist norms to bring about novel ideas. To the leader with strategic genius, the method of this resistance proves critical and they understand that innovative approaches do not exist in a vacuum. New concepts must fit closely with established ideas or at least contain compelling reasons to deviate from the norm. As such, these leaders work to achieve institutional buy-in so that their ideas might become reality and create better outcomes.

Colin Gray argued that effective strategic thinking is so difficult that it likely does not exist.[146] This monograph offers the possibility that not only has strategic genius existed in the past but that diverse, complex, courageous and compelling leaders are very possible today. While this monograph illuminates the elements needed for Clausewitz's "harmonious combination" of strategic genius, it does not directly address how strategic genius develops in leaders. A further inquiry into how to change institutions and develop officers in the ways of strategic genius would be a worthwhile endeavor.

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[146] Colin Gray, *Modern Strategy* (New York: Oxford University Press, 1999), 23–43.

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